REMARKS

Claims 1, 3- 5, 7-8, and 16-21 are pending in the application. Claims 2, 6, and 9-15 were canceled in a previous submission.

In view of the following comments, Applicants respectfully request withdrawal of the rejections of Claims 1, 3-5, 7-8 and 16-18, and 21 and favorable action on Claims 19-20.

Claims 19 and 20

It is noted that pending claims 19 and 20 are not addressed in the Office Action dated March 11, 2004.

Claims1 3-5, 7-8, 16-18, and 21 are allowable under 35 U.S.C. §103(a)

The Office Action dated March 11, 2004 set forth a rejection of independent claims 1 and 21, and of dependent claims 3-5, 7-8, and 16-18, asserting that the claims would have been obvious over U.S. Patent No. 3,564,789 to Vyvyan et al. in view of U.S. Patent No. 3,494,593 to Blagg. Applicants respectfully traverse this rejection.

Claim 1 is directed to an elongated truss boom adapted to be flattened and coiled to a stowed configuration. The boom includes a plurality of longerons arranged parallel to and equidistant from a longitudinal axis of the truss boom forming a polygonal cross section normal to the longitudinal axis, a plurality of fixed battens, and a plurality of moveable battens. The fixed battens and the moveable battens are coupled to the longerons to form a plurality of polygonal frame members which are located in a series of planes normal to the longitudinal axis.

A first and a second longeron of the plurality of longerons are interconnected with at least one of the fixed battens to form a first rigid ladder shaped structure.

A third and a fourth longeron of the plurality of longerons are interconnected with at least one other of the fixed battens to form a second rigid ladder shaped structure opposing the first rigid ladder shaped structure.

The first rigid ladder shaped structure is moveably connected by movable battens to the second rigid ladder shaped structure.

The first and second longerons are spaced apart from each other less than the third and

fourth longerons are spaced apart from each other, so that when the truss boom is flattened the first ladder shaped structure nests between the third and fourth longerons of the second ladder shaped structure and the first, second, third and fourth longerons are substantially coplanar to permit compact stowing.

The relative spacing of the first, second, third, and fourth longerons of the claimed truss boom, together with the movable battens connecting the ladder shaped structures formed by the pairs of longerons, allows one of the ladder shaped structures to nest between the longerons of the opposed ladder shaped structure when the truss boom is flattened. Figures 3 and 4 illustrate the box beam in an expanded and in a flattened condition, respectively.

As acknowledged by the Office Action, Vyvyan et al. does not disclose at least the claimed spacing of the longerons set forth in Claim 1. In particular, Vyvyan et al. does not disclose at least the Claim 1 feature that the first and second longerons of the first rigid ladder shaped structure are spaced apart from each other less than the third and fourth longerons are spaced apart from each other, so that when the truss boom is flattened the first ladder shaped structure nests within the third and fourth longerons of the second ladder shaped structure and the first, second, third and fourth longerons are substantially coplanar to permit compact stowing. Nor is there any guidance in Vyvyan et al. to modify the Vyvyan et al. box beam to have the features set forth in Claim 1.

To remedy this deficiency, page 4 of the the Office Action points to Blagg as having "longerons connected battens of different dimensions to enable the nesting of a first ladder shape structure (14, within figure 3A) within a second ladder shape structure (36, figure 3A)" and asserts that it would have been obvious to modify Vyvyan et al. to have such a feature "because it would enable nesting of the ladder shaped structure for compact storing as taught by Blagg".

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success.

Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See, e.g., M.P.E.P. 2143. Moreover, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Applicants respectfully submit that the hypothetical combination of Vyvyan et al. and Blagg is insufficient to establish a prima facie case of obviousness because neither document provides any motivation or suggestion to make the claimed combination nor any reasonable expectation of success.

Blagg is an entirely different structure that is erected in an entirely different manner, and provides no suggestion or motivation to modify the Vyvyan et al. box beam. Blagg is directed to an apparatus for raising rigid sections of an extension mast structure 14 in a vertical direction. Both the erecting fixture 36 and the mast structure 14 are triangular in cross section. See col. 4, lines 8-12 and Fig 4. To erect the mast, as one triangular section 15 of the mast 14 is raised by a crank 48 and pulley 42, a second triangular section 16 is inserted in the erecting fixture 36 and connected to the bottom of the first section 15. The connected sections 15 and 16 are then raised by a the crank and pulley about the height of one of the sections, after which a third section 17 is inserted in the erecting fixture and connected to the bottom of the second section 16. The process is repeated for as many sections as desired. See col. 4, lines 28-38 and 47-51.

Although the Office Action indicates that the Blagg mast 14 and fixture 36 are "nested", the Blagg mast 14 and fixture 36 do not correspond to rigid ladder shaped structures that are moveably connected by movable battens to each other, as set forth in claim 1. Indeed, the mast and fixture are not connected to each at all, much less by movable battens that allow the mast and fixture to collapse and expand in a transverse direction. The mast does not expand in a transverse direction at all. Instead, the triangular mast slides in a longitudinal direction out of the fixture. In contrast, the Vyvyan et al. box beam structure expands transversely once released from the housing 200.

Nothing in Blagg provides any guidance for combining the devices of Vyvyan et al. and Blagg or for modifying a transversely collapsable and expandable box beam structure such as the one shown in Vyvyan et al.

Moreover, there does not appear to be any description of the need for "for compact storing" in Blagg. Further, as the mast and fixture in Blagg appear to be rigid and of fixed volume in the assembled and unassembled states, Blagg does not seem to disclose any advantage of compact storage.

Thus, any motivation to form an elongated truss boom having the features set forth in Claim 1 can only be found in the applicant's disclosure itself.

Accordingly, a prima facie case of obviousness has not been established.

Withdrawal of the rejections of Claim 1 and dependent Claims 3-5, 7-8, and 16-18 is respectfully requested. Claims 19 and 20 are believed to be allowable for at least the reasons Claim 1 is allowable.

Independent Claim 21 is believed to be allowable over the hypothetical combination of Vyvyan et al. and Blagg for at least the same reasons that Claim 1 is allowable.

Accordingly, an early indication of the allowability of Claims 1, 3-5, 7-8, and 16-21 is earnestly solicited.

Should any questions arise regarding this submission, or regarding the application in general, the Examiner is cordially invited to contact the undersigned at the number listed below.

Respectfully Submitted,

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